

REMARKS

Claims 1-39 are pending in this application. Claims 21-35 have been subjected to a restriction requirement.

The Restriction Requirement

The Office required restriction to one of the following groups of inventions under 35 U.S.C. § 121:

Group I: claims 1-20 and 36-39, drawn to a contoured structural member, classified in class 428, subclass 36.91; and

Group II: claims 21-35, drawn to a method for making a contoured structural member, classified in class 156, subclass 189.

The Office argues that Groups I and II are distinct because the product as claimed can be made by another and materially different method: by rotational molding or shaping by extrusion, e.g., spinning. The Office concludes that because the groups of inventions are distinct for these reasons, and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes is proper.

Applicant affirms the election, with traverse, to prosecute the invention of Group I, claims 1-20 and 36-39. Applicant does NOT traverse the Office's classification of the groups of inventions as distinct and entailing different patentability determinations, merely the reasoning behind the Office's classification.

As to the restriction between Groups I and II, Applicant disagrees that the product as claimed can be made by the other and materially different method suggested by the Office. The claims of Group I currently recite a contoured structural member comprising a coating. The

alternative method proposed by the Office, however, would not make this claimed product. Specifically, the product formed by the Office proposed method would not contain such a coating.

Thus, the Office has not established a proper restriction requirement between Groups I and II. Accordingly, Applicant respectfully requests withdrawal of this restriction requirement and examination of all pending claims.

Rejection – 35 U.S.C. § 102(b) over Martin

The Office has rejected claims 36-39 under 35 U.S.C. § 102 (b) as being anticipated by Martin (U.S. Patent No. 5564064) for the reasons listed on page 4 of the Office Action. Applicant respectfully traverses this rejection.

The Office rejects product-by-process claims 36-39, arguing that if the product in the product-by-process claims is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process. Applicants respectfully disagree that the product in the product-by-process claim is the same or obvious in light of Martin.

Martin describes a prior art structure of two face sheets sandwiching a honeycomb core sheet. *See Figure 1 and accompanying description.* Martin describes that one of the disadvantages of the structures in Figure 1 was that they are not integrally formed. *See column 2, lines 1-3.* To overcome this and other disadvantages, Martin forms the structural members described in Figures 2-3, none of which contain a honeycomb core structure.

The product from the claimed product-by-process is not the “same as or obvious from” the products illustrates in Figures 2-3 of Martin. The product resulting from the claims would

contain a honeycomb core, whereas the products illustrated in Figures 2-3 of Martin intentionally do not contain a honeycomb core.

As well, the product from the claimed product-by-process is not the “same as or obvious from” the product illustrated in Figure 1 of Martin. While the structure in Figure 1 of Martin contains a honeycomb core, it is a flat sandwich structure. The product formed by the product-by-process claims is not formed as a flat sandwich structure.

Rejection – 35 U.S.C. § 103 over Martin and Crane

The Office has rejected claims 1-4, 6-10, 14-20 and 36-39 under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of Crane (U.S. Patent No. 5447765) for the reasons listed on pages 4-7 of the Office Action. Applicant respectfully traverses this rejection.

The Office argues that Martin teaches the invention substantially as claimed, with the exception of an inner section containing a plurality of layers and an outer section containing a plurality of layers. The Office contends that Crane teach a contoured structural member with an inner and outer section containing a plurality of layers. The Office concludes that it would have been obvious to have combined the plurality of layers from the inner and outer sections of Crane with the structure of Martin because this would have provided improved damping characteristics.

Applicant respectfully disagrees that the skilled artisan would have combined the cited prior art in the manner proposed by the Office. The Office contends that Martin teaches a structural member comprising an inner and outer layer made of a composite material or a metal-containing material. *See Office Action, p. 5.* The Office, however, has misunderstood the disclosure of Martin. Martin describes that the industry has been moving towards more light-weight structures by using composite materials and sandwich structures. *See column 1, lines 15-*

60. Martin discloses, however, that such structures and materials often have several drawbacks. *See column 1, line 61 through column 2, line 6.* Thus, Martin moves away from such composite materials and toward metal bodies containing a metal shell 10 (or 100). *See, for example, column 1, line 8; column 2, line 12; column 4, line 52; and column 5, line 4.* The “metals” for the metal shell may be any “metal, metal alloy, or composite” based upon the desired application of the ultimate “metal” product desired. *See column 5, lines 23-25.* One example is high strength “metals and metal alloys” useful in the aerospace industry. *See column 5, lines 25-30.* Other “metals” may still be used. *See column 5, lines 30-32.* The most important factor in choosing the “metal and/or metal alloy” used for the shell and core is their compatibility. *See column 5, lines 32-35.* The shell may be fabricated from any “metal” mill sheet and fabricated by and conventional “metal” forming technique. *See column 5, lines 48-52.* The remainder of Martin consistently describes—and even claims—using metals and metal alloys.

Based on this disclosure, the skilled artisan would have understood that the word “composite” briefly mentioned on line 23 of column 5 is not used in the sense of a material, i.e., a composite material. Rather, the word “composite” is used in the sense of a mixture, i.e., a metal mixture or mixture of metals (like an alloy).

This misperception is important because of the Office’s proposed motivation for combining the cited prior art. Knowing that Martin intentionally used metals in his structures (and did not want to use composite materials), the skilled artisan would have been unlikely to combine the disclosure of Crane with Martin. Crane describes the use of layers of composite materials in forming his structure. The skilled artisan would have been unlikely to use layers of composite material in place of the metal shell of Martin because of the differences between metals and composite materials. Indeed, the skilled artisan would not have been motivated

against the proposed combination because Martin—as described above—intentionally uses metals and not composite materials. Thus, the proposed modification would render the invention of Martin unsatisfactory for its intended purpose (of not using composite materials) and there exists no suggestion or motivation to make the proposed modification. *See M.P.E.P. § 2143.01; In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Even if the cited prior art could have been combined as proposed by the Office, the skilled artisan would not have arrived at the claimed invention. Martin discloses a structural member containing a sandwich-like structure with a solid metal facing and a porous metal core. *See Abstract.* Time and time again, Martin describes flat sandwich-type structural members and methods of making such flat structures. The only, single description that the undersigned could find of a “non-sandwich” type structural member is at column 6, line 60, where Martin briefly mentions that any desired structural elements (such as cylinders) can be formed. There is no mention of how to form such cylindrical structures. Indeed, the methods (and accompanying Figures) would seem to only describe how to form sandwich-type structures. In fact, Martin only claims a sandwich type structural member. *See claims 1 and 10.* Thus, Martin contains a “non-enabling” disclosure for non-sandwich type structural members and this reference cannot be properly relied on by the Office to reject the present claims. *See M.P.E.P. § 2121.04.*

Thus, the Office has not substantiated that the skilled artisan would have considered these claims obvious over the combined teachings of Martin and Crane. Accordingly, Applicant requests withdrawal of this rejection.

Rejection – 35 U.S.C. § 103 over Martin, Crane, and Casser

The Office has rejected claims 5 and 12-13 under 35 U.S.C. § 103 as being unpatentable over Martin and Crane, in view of Casser (U.S. Patent No. 5945643) for the reasons listed on pages 7-8 of the Office Action. Applicant respectfully traverses this rejection.

The independent claims currently recite a structural member comprising an inner and outer section with a plurality of layers. As noted above, the Office has not substantiated that the combination of Martin and Crane teaches or suggests a structural member with this recited limitation.

Neither has the Office substantiated that Casser teaches or suggests a structural member containing such a limitation. Casser describes and illustrates vibration damping materials and methods of using the same. *See Abstract and Figures*. The Office has not substantiated that Casser teaches the claimed structural member comprising an inner and outer section with a plurality of layers. Nor has the Office has provided any reason to modify the teachings of Casser to obtain a structural member containing an inner and outer section with a plurality of layers. And since the Office has not shown that Casser teach or suggest this claimed limitation, the Office cannot show that it would have been obvious to modify the combination of Martin and Crane to include such a limitation.

For the above reasons, the Office has not substantiated that the skilled artisan would have considered claims 5 and 12-13 obvious over the combined teachings of Martin, Crane, and Casser. Accordingly, Applicant requests withdrawal of this rejection.

Rejection – 35 U.S.C. § 103 over Martin, Crane, and Reid et al.

The Office has rejected claim 11 under 35 U.S.C. § 103 as being unpatentable over Martin and Crane, in view of Reid et al. (U.S. Patent No. 5,564,064) for the reasons listed on pages 8-9 of the Office Action. Applicant respectfully traverses this rejection.

The independent claims currently recite a structural member comprising an inner and outer section with a plurality of layers. As noted above, the Office has not substantiated that the combination of Martin and Crane teaches or suggests a structural member with this recited limitation.

Neither has the Office substantiated that Reid et al. teach or suggest a structural member containing such a limitation. Reid et al. describe and illustrate a crash attenuation system for absorbing the energy from impact forces. *See Abstract and Figures*. The Office has not substantiated that Reid et al. teach the claimed structural member comprising an inner and outer section with a plurality of layers. Nor has the Office provided any reason to modify the teachings of Reid et al. to obtain a structural member containing an inner and outer section with a plurality of layers. And since the Office has not shown that Reid et al. teach or suggest this claimed limitation, the Office cannot show that it would have been obvious to modify the combination of Martin and Crane to include such a limitation.

For the above reasons, the Office has not substantiated that the skilled artisan would have considered claim 11 obvious over the combined teachings of Martin, Crane, and Reid et al. Accordingly, Applicant requests withdrawal of this rejection.

CONCLUSION

For the above reasons, Applicant respectfully requests the Office to withdraw the above grounds of rejection and allow the pending claims.

If there is any fee due in connection with the filing of this Amendment, including a fee for any extension of time not accounted for above, please charge the fee to our Deposit Account No. 50-0843.

Respectfully Submitted,

By



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